



**NCFE CACHE Level 3 Extended Diploma in  
Health and Social Care (Northern Ireland)  
(603/5355/7)**

**Unit 04 Anatomy and physiology for health and  
social care**

DATE XX/XX/XX

Assessment code: **Sample**

Paper number: **Sample**

**Mark Scheme**

v1.0 Pre-standardisation

This mark scheme has been written by the Assessment Writer and refined, alongside the relevant questions, by a panel of subject experts through the external assessment writing process and at standardisation meetings.

The purpose of this mark scheme is to give you:

- examples and criteria of the types of response expected from a learner
- information on how individual marks are to be awarded
- the allocated assessment objective(s) and total mark for each question.

## Marking guidelines

### *General guidelines*

You must apply the following marking guidelines to all marking undertaken throughout the marking period. This is to ensure fairness to all learners, who must receive the same treatment. You must mark the first learner in exactly the same way as you mark the last.

- The mark scheme must be referred to throughout the marking period and applied consistently. Do not change your approach to marking once you have been standardised.
- Reward learners positively, giving credit for what they have shown, rather than penalising them for what they might have omitted.
- Utilise the whole mark range and always award full marks when the response merits them.
- Be prepared to award zero marks if the learner's response has no creditworthy material.
- Do not credit irrelevant material that does not answer the question, no matter how impressive the response might be.
- The marks awarded for each response should be clearly and legibly recorded in the grid on the front of the question paper.
- If you are in any doubt about the application of the mark scheme, you must consult with your Team Leader or the Chief Examiner.

### *Guidelines for using extended response marking grids*

Extended response marking grids have been designed to award a learner's response holistically and should follow a best-fit approach. The grids are broken down into levels, with each level having an associated descriptor indicating the performance at that level. You should determine the level before determining the mark.

When determining a level, you should use a bottom up approach. If the response meets all the descriptors in the lowest level, you should move to the next one, and so on, until the response matches the level descriptor. Remember to look at the overall quality of the response and reward learners positively, rather than focussing on small omissions. If the response covers aspects at different levels, you should use a best-fit approach at this stage, and use the available marks within the level to credit the response appropriately.

When determining a mark, your decision should be based on the quality of the response in relation to the descriptors. Standardisation materials, marked by the Chief Examiner, will help you with determining a mark. You will be able to use exemplar learner responses to compare to live responses, to decide if it is the same, better or worse.

You are reminded that the indicative content provided under the marking grid is there as a guide, and therefore you must credit any other suitable responses a learner may produce. It is not a requirement either, that learners must cover all of the indicative content to be awarded full marks.

## Assessment objectives

This unit requires learners to:

AO1	Recall of knowledge and understanding
AO2	Apply knowledge and understanding
AO3	Analyse to demonstrate knowledge of concepts and/or theories

SAMPLE

<b>1 (a)</b>	<p><b>Which one of the following pieces of equipment would a health care worker use to measure blood pressure?</b></p> <p>Answer:</p> <ul style="list-style-type: none"> <li>• B - Sphygmomanometer (1)</li> </ul>	<p><b>1</b> <b>AO1=1</b></p>
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<b>1 (b)</b>	<p><b>Explain the procedure a health care worker must follow when a service user's blood pressure reading is 160/100mmHg.</b></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 10%;">Level</th> <th style="width: 10%;">Mark</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>3</b></td> <td style="text-align: center;"><b>5–6</b></td> <td> <p>Application of knowledge is appropriate and accurate and shows clear understanding of the procedure a health care worker must follow.</p> <p>Analysis to demonstrate understanding of the procedure a health care worker must follow is detailed and highly effective, with clearly reasoned consequences. Clear links are made.</p> </td> </tr> <tr> <td style="text-align: center;"><b>2</b></td> <td style="text-align: center;"><b>3–4</b></td> <td> <p>Application of knowledge is mostly appropriate, showing some clear understanding of the procedure a health care worker must follow. There may be a few errors.</p> <p>Analysis to demonstrate understanding of the procedure a health care worker must follow is effective and mostly relevant, with simplistic consequences. Some clear links are made.</p> </td> </tr> <tr> <td style="text-align: center;"><b>1</b></td> <td style="text-align: center;"><b>1–2</b></td> <td> <p>Application of knowledge is limited and may show a lack of understanding of the procedure a health care worker must follow. There may be a number of errors.</p> <p>Analysis to demonstrate understanding of the procedure a health care worker must follow lacks detail and may have limited effectiveness and relevance. Links may be made but are often inappropriate.</p> </td> </tr> <tr> <td></td> <td style="text-align: center;"><b>0</b></td> <td>No creditworthy material.</td> </tr> </tbody> </table> <p><b>Indicative content</b></p> <ul style="list-style-type: none"> <li>• Learner may indicate that the blood pressure is outside of the the normal range (hypertension) and therefore may be a cause for concern.</li> <li>• Practitioner must follow policies and procedures. Failure to do so may have consequences such as physiological deterioration in service users, acute illness or disciplinary action.</li> <li>• Record blood pressure in a timely and accurate manner. Failure to do so may present a safeguarding issue.</li> </ul>	Level	Mark	Description	<b>3</b>	<b>5–6</b>	<p>Application of knowledge is appropriate and accurate and shows clear understanding of the procedure a health care worker must follow.</p> <p>Analysis to demonstrate understanding of the procedure a health care worker must follow is detailed and highly effective, with clearly reasoned consequences. Clear links are made.</p>	<b>2</b>	<b>3–4</b>	<p>Application of knowledge is mostly appropriate, showing some clear understanding of the procedure a health care worker must follow. There may be a few errors.</p> <p>Analysis to demonstrate understanding of the procedure a health care worker must follow is effective and mostly relevant, with simplistic consequences. Some clear links are made.</p>	<b>1</b>	<b>1–2</b>	<p>Application of knowledge is limited and may show a lack of understanding of the procedure a health care worker must follow. There may be a number of errors.</p> <p>Analysis to demonstrate understanding of the procedure a health care worker must follow lacks detail and may have limited effectiveness and relevance. Links may be made but are often inappropriate.</p>		<b>0</b>	No creditworthy material.	<p><b>6</b> <b>AO2=3</b> <b>AO3=3</b></p>
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	<ul style="list-style-type: none"> <li>• Report blood pressure to appropriate person as soon as is possible. The appropriate person may be one or all of the following:                     <ul style="list-style-type: none"> <li>– manager</li> <li>– doctor</li> <li>– senior nurse</li> <li>– supervisor.</li> </ul> </li> <li>• Maintain confidentiality when recording and reporting blood pressure reading.</li> <li>• Ensure records are completed and maintained accurately in order to provide the most appropriate intervention for the service user.</li> <li>• Ensure the service user is fully informed with the facts regarding possible complications if left untreated.</li> <li>• Reassure the service user regarding the range of ways to control high blood pressure with and without medication.</li> </ul> <p>Accept other appropriate responses.</p>	
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<p><b>1(c)</b></p>	<p><b>It is important to gain consent prior to obtaining physiological measurements.</b></p> <p><b>Name three (3) types of consent and explain the importance of gaining consent prior to obtaining physiological measurements.</b></p> <p>Award <b>one</b> mark for each accurate type of consent:</p> <ul style="list-style-type: none"> <li>• voluntary (1)</li> <li>• informed (1)</li> <li>• capacity (1).</li> </ul> <p>Award up to <b>three</b> marks for the explanation.              For example:</p> <ul style="list-style-type: none"> <li>• practitioners must maintain a professional approach (1) and follow policies for gaining consent (1) by explaining procedures to the service user in full before consent can be given (1)</li> <li>• practitioners must adhere to legislation (1) as consent is an important part of human rights law (1) and service users have the right to say no to procedures (1)</li> <li>• service users must be made aware of the risks and benefits of any procedure (1) so that they can carry out further research or get a second opinion (1) and determine whether the risks of the procedure are acceptable (1).</li> </ul> <p>Accept other appropriate responses.</p>	<p><b>6</b></p> <p><b>AO1=3</b></p> <p><b>AO2=3</b></p>
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<b>1(d)</b>	<b>Blood is made up of four (4) components.</b>		<b>1</b> <b>AO1=1</b>
	White blood cells	Platelets	
		Red blood cells	
	Which <b>one (1)</b> of the following is the fourth component?  Answer: • C - Plasma (1)		

<b>1(e)</b>	<b>Explain the function of white blood cells (leucocytes) within the immune system.</b>		<b>6</b> <b>AO2=3</b> <b>AO3=3</b>	
	<b>Level</b>	<b>Mark</b>		<b>Description</b>
	<b>3</b>	<b>5–6</b>		Application of knowledge is appropriate and accurate and shows clear understanding of the function of leucocytes within the immune system.  Analysis to demonstrate understanding of the function of leucocytes within the immune system is detailed and highly effective, with clearly reasoned consequences. Clear links are made.
	<b>2</b>	<b>3–4</b>		Application of knowledge is mostly appropriate, showing some clear understanding of the function of leucocytes within the immune system. There may be a few errors.  Analysis to demonstrate understanding of the function of leucocytes within the immune system is effective and mostly relevant, with simplistic consequences. Some clear links are made.
	<b>1</b>	<b>1–2</b>		Application of knowledge is limited and may show a lack of understanding of the function of leucocytes within the immune system. There may be a number of errors.  Analysis to demonstrate understanding of the function of leucocytes within the immune system lacks detail and may have limited effectiveness and relevance. Links may be made but are often inappropriate.
	<b>0</b>	No creditworthy material.		

	<p><b>Indicative content</b></p> <ul style="list-style-type: none"><li>• Leucocytes are cells of the immune system that are involved in protecting the body against both infectious disease and foreign invaders<ul style="list-style-type: none"><li>– leucocytes move through the body’s blood and tissue searching for foreign invaders</li><li>– foreign invaders and cellular debris are ingested</li><li>– infectious agents and cancer cells are destroyed</li><li>– antibodies are produced as required by the body</li></ul></li><li>• Leucocytes are involved in the immune system response<ul style="list-style-type: none"><li>– their number and activity increases</li><li>– this increased activity may lead to allergic reactions</li><li>– the immune response needs to be a coordinated effort</li><li>– this effort is successful when the cells communicate with one another</li></ul></li><li>• Types of leucocytes:<ul style="list-style-type: none"><li>– T Cells - plays a central role in the immune response by recognising virally infected or cancerous cells which they then destroy. T cells also assist with the production of B cells</li><li>– B Cells – fight bacteria and viruses by presenting antigens and secreting antibodies</li><li>– phagocytes - a type of cell within the body capable of engulfing and absorbing bacteria and other small cells and particles</li></ul></li><li>• Leucocytes are produced and derived from multipotent cells in the bone marrow.</li></ul> <p>Accept other appropriate responses.</p>	
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**Scenario**

**Jack is 68 years old and lives alone. Jack is experiencing age-related health problems for which he is receiving treatment. One of Jack's health complaints is arthritis in his legs and hips.**

<b>2 (a)</b>	<p><b>There are two common types of arthritis.</b></p> <p><b>Identify the two (2) types of arthritis and explain one (1) of these types of arthritis.</b></p> <p>Award <b>one</b> mark each for:</p> <ul style="list-style-type: none"><li>• osteoarthritis (1)</li><li>• rheumatoid arthritis (1).</li></ul> <p>Award up to <b>two</b> marks for an accurate explanation:</p> <p>Osteoarthritis:</p> <ul style="list-style-type: none"><li>• inflammation of the joints causes cartilage to toughen and thin (1) making movement more difficult (1)</li><li>• can affect individuals who have had a joint injury (1) resulting in stiffness and joint pain (1).</li></ul> <p>Rheumatoid arthritis:</p> <ul style="list-style-type: none"><li>• an autoimmune disease which causes inflammation of the joints (1) and damage to cartilage and bone (1)</li><li>• the immune system begins to attack the joints (1) resulting in stiffness and joint pain (1).</li></ul> <p>Accept other appropriate responses.</p>	<p><b>4</b></p> <p><b>AO1=2</b></p> <p><b>AO3=2</b></p>
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<b>2 (b)</b>	<b>Discuss the likely effects of arthritis on Jack’s wellbeing.</b>		<b>12</b>
	<b>Level</b>	<b>Mark</b>	<b>Description</b>
	<b>3</b>	<b>9–12</b>	<p>A wide range of relevant knowledge and understanding of the impact of arthritis on the wellbeing of Jack is shown, which is accurate and detailed.</p> <p>Application of knowledge is appropriate and accurate and shows clear understanding of the impact of arthritis on the wellbeing of Jack.</p> <p>Analysis to demonstrate understanding the impact of arthritis on the wellbeing of Jack is detailed and highly effective, with reasoned judgements made. Clear links are made.</p>
	<b>2</b>	<b>5–8</b>	<p>A wide range of relevant knowledge and understanding of the impact of arthritis on the wellbeing of Jack is shown. There may be a few errors.</p> <p>Application of knowledge is mostly appropriate, showing some clear understanding the impact of arthritis on the wellbeing of Jack. There may be a few errors.</p> <p>Analysis to demonstrate understanding of the impact of arthritis on the wellbeing of Jack is effective and mostly relevant with simplistic judgments made. Some clear links are made.</p>
	<b>1</b>	<b>1–4</b>	<p>A limited range of relevant knowledge and understanding of the impact of arthritis on the wellbeing of Jack is shown but is often fragmented.</p> <p>Application of knowledge is limited and may show a lack of understanding of the impact of arthritis on the wellbeing of Jack. There may be a number of errors.</p> <p>Analysis to demonstrate understanding of the impact of arthritis on the wellbeing of Jack lacks detail and may have limited effectiveness and relevance. Links may be made but are often inappropriate.</p>
	<b>0</b>	No relevant material.	

	<p><b>Indicative content</b>                  Answers may take a holistic approach or focus on the individual physical, cognitive, emotional and social aspects of Jack’s wellbeing.</p> <ul style="list-style-type: none"> <li>• Physical                     <ul style="list-style-type: none"> <li>– pain</li> <li>– lack of mobility/activity</li> <li>– possible weight increase</li> <li>– difficulties with own self-care</li> <li>– poor sleep due to pain.</li> </ul> </li> <li>• Cognitive                     <ul style="list-style-type: none"> <li>– reduced mobility may reduce engagement with hobbies/interests resulting in reduced stimulation</li> <li>– pain/loss of sleep can affect memory and concentration.</li> </ul> </li> <li>• Emotional                     <ul style="list-style-type: none"> <li>– pain may cause a low mood</li> <li>– weight gain may affect self esteem</li> <li>– loss of hobbies/pastimes may cause low mood</li> <li>– reduced ability to self-care may affect self-esteem.</li> </ul> </li> <li>• Social                     <ul style="list-style-type: none"> <li>– reduced mobility may prevent Jack from going out to do shopping, therefore reducing outside contact</li> <li>– pain may make Jack feel less like socialising.</li> </ul> </li> </ul> <p>Accept other appropriate responses.</p>	
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<p><b>2 (c)(i)</b></p>	<p><b>The following are both examples of what type of joint?</b></p> <ul style="list-style-type: none"> <li>• <b>Ball and socket</b></li> <li>• <b>Hinge and pivot</b></li> </ul> <p>Award <b>one</b> mark for:</p> <ul style="list-style-type: none"> <li>• <b>synovial joint (1).</b></li> </ul>	<p><b>1</b> <b>AO1=1</b></p>
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<b>2(c)(ii)</b>	<p><b>The type of joint identified in 2(c)(i) contains a fluid.</b></p> <p><b>Identify this fluid and explain how it improves mobility.</b></p> <p>Award <b>one</b> mark for:</p> <ul style="list-style-type: none"><li>• synovial fluid (1).</li></ul> <p>Award up to <b>two</b> marks for the explanation of how the fluid improves mobility.</p> <p>For example:</p> <ul style="list-style-type: none"><li>• synovial fluid acts like a lubricating oil (1) allowing the bones to move past one another more smoothly (1)</li><li>• synovial fluid cushions the body's joints (1) reducing friction during movement (1).</li></ul> <p>Accept other appropriate responses.</p>	<p><b>3</b></p> <p><b>AO1=1</b></p> <p><b>AO3=2</b></p>
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<b>3 (a)</b>	<p><b>There are four non-invasive sites in the human body where a temperature can be taken.</b></p> <p><b>Identify the four (4) non-invasive sites.</b></p> <p>Award <b>one</b> mark for identification of each non-invasive site:</p> <ul style="list-style-type: none"><li>• Oral (1)</li><li>• Ear (1)</li><li>• Underarm (1)</li><li>• Forehead (1).</li></ul> <p><b>NB</b> Do not accept rectal as a response.</p>	<p><b>4</b></p> <p><b>AO1=4</b></p>
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<p><b>3 (b)</b></p>	<p><b>The homeostatic mechanism of thermoregulation controls body temperature.</b></p> <p><b>Identify three (3) other homeostatic mechanisms and briefly describe each one of these mechanisms.</b></p> <p>Award <b>one</b> mark for each correct identification and <b>one</b> further mark for a brief description of each mechanism:</p> <ul style="list-style-type: none"> <li>• Osmoregulation (1)                     <ul style="list-style-type: none"> <li>– controls the balance of water and salts in the blood (1)</li> <li>– protects cells by preventing too much water entering or leaving them by osmosis (1)</li> <li>– role of antidiuretic hormone ADH in controlling urine formation (1)</li> </ul> </li> <li>• Glucoregulation (1)                     <ul style="list-style-type: none"> <li>– control the levels of blood glucose in the body (1)</li> <li>– achieves balance of glucose locked away as glycogen and glucose free in the blood</li> <li>– pancreas releases insulin if glucose levels are too high (1)</li> </ul> </li> <li>• Blood pressure (1)                     <ul style="list-style-type: none"> <li>– uses baroreceptors when blood pressure rises too high or too low (1)</li> <li>– uses chemical receptors to monitor levels of oxygen, carbon dioxide and hydrogen (1).</li> </ul> </li> </ul> <p>Accept other appropriate responses.</p>	<p><b>6</b></p> <p><b>AO1=3</b></p> <p><b>AO2=3</b></p>
<p><b>3 (c)</b></p>	<p><b>Discuss the effects that ageing has on an individual's physiological measurements.</b></p> <p>Award up to <b>four</b> marks for the following points included in the discussion:</p> <ul style="list-style-type: none"> <li>• artery walls may thicken increasing blood pressure (1)</li> <li>• artery walls may lose muscular strength reducing blood pressure (1)</li> <li>• arteries may have build-up of plaque increasing blood pressure (1)</li> <li>• heart rate may drop as muscles become less efficient (1)</li> <li>• oxygen saturation may reduce due to less efficient lungs (1)</li> <li>• breathing may become shallower and slowed (1)</li> <li>• reduction in lung capacity can affect measurements such as tidal volume (1)</li> <li>• thermoregulation becomes more difficult due to changes in the skin, leading to altered temperature readings (1).</li> </ul> <p>Accept other appropriate responses.</p>	<p><b>3</b></p> <p><b>AO3=4</b></p>

<p><b>3 (d)</b></p>	<p><b>Age and increased levels of activity can affect an individual's physiological measurements.</b></p> <p><b>Identify</b> four (4) other <b>factors that can affect an individual's physiological measurements</b> and <b>explain how</b> one (1) <b>of these factors may affect body temperature.</b></p> <p>Award <b>one</b> mark for each factor identified and up to <b>two</b> marks for an appropriate explanation.</p> <p>Biological (sex) (1)</p> <ul style="list-style-type: none"> <li>• men have a greater muscle mass than women (1) which leads to more heat production in men (1)</li> <li>• levels of female reproductive hormones can affect thermoregulation (1) which can vary in effectiveness at different times of the menstrual cycle (1).</li> </ul> <p>Diet (1)</p> <ul style="list-style-type: none"> <li>• fatty foods lead to obesity causing the body to work harder to produce movement (1) which can increase body temperature (1)</li> <li>• people who are malnourished may have problems with thermoregulation (1) People who are underweight may have lower body temperatures (1).</li> </ul> <p>Stress (1)</p> <ul style="list-style-type: none"> <li>• stress may increase body temperature (1) as fight or flight response produces adrenaline which stimulates the body to work harder (1)</li> <li>• stress may decrease body temperature (1) as blood flow to the skin is restricted due to the constriction of blood vessels (1).</li> </ul> <p>Medication (1)</p> <ul style="list-style-type: none"> <li>• medication can cause hypothermia (1) due to the depression of the thermoregulatory system (1)</li> <li>• medication can cause fever (1) due to the pharmacological action of the drug (1).</li> </ul> <p>Award other appropriate responses.</p>	<p><b>6</b></p> <p><b>AO1=4</b></p> <p><b>AO3=2</b></p>
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**Scenario**

**Safia is 64 years old and was experiencing chest pains so was admitted to hospital for tests. The results showed that Safia has cardiovascular disease.**

<b>4 (a)</b>	<p><b>Identify the four (4) main types of cardiovascular disease.</b></p> <p>Award <b>one</b> mark for each of the following:</p> <ul style="list-style-type: none"> <li>• Coronary Heart Disease (CHD) (1)</li> <li>• Stroke (CVA) (1)</li> <li>• Peripheral arterial disease (1)</li> <li>• Aortic disease (1).</li> </ul>	<p><b>4</b></p> <p><b>AO1=4</b></p>
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<b>4 (b)</b>	<p><b>Analyse how cardiovascular disease may affect Safia’s wellbeing.</b></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 10%;">Level</th> <th style="width: 10%;">Mark</th> <th style="width: 80%;">Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>3</b></td> <td style="text-align: center;"><b>7–9</b></td> <td> <p>A range of relevant knowledge and understanding of how cardiovascular disease may impact on the wellbeing of Safia is shown, which is accurate and detailed.</p> <p>Application of knowledge is appropriate and accurate and shows clear understanding of how cardiovascular disease may impact on the wellbeing of Safia.</p> <p>Analysis to demonstrate understanding of how cardiovascular disease may impact on the wellbeing of Safia is detailed and highly effective, with reasoned judgements made. Clear links are made.</p> </td> </tr> <tr> <td style="text-align: center;"><b>2</b></td> <td style="text-align: center;"><b>4–6</b></td> <td> <p>A range of relevant knowledge and understanding of how cardiovascular disease may impact on the wellbeing of Safia is shown, but may be lacking in sufficient detail, with a few errors</p> <p>Application of knowledge is mostly appropriate, showing some clear understanding of how cardiovascular disease may impact on the wellbeing of Safia. There may be a few errors.</p> <p>Analysis to demonstrate understanding of how cardiovascular disease may impact on the wellbeing of Safia is effective and mostly relevant with simplistic judgments made. Some clear links are made.</p> </td> </tr> </tbody> </table>	Level	Mark	Description	<b>3</b>	<b>7–9</b>	<p>A range of relevant knowledge and understanding of how cardiovascular disease may impact on the wellbeing of Safia is shown, which is accurate and detailed.</p> <p>Application of knowledge is appropriate and accurate and shows clear understanding of how cardiovascular disease may impact on the wellbeing of Safia.</p> <p>Analysis to demonstrate understanding of how cardiovascular disease may impact on the wellbeing of Safia is detailed and highly effective, with reasoned judgements made. Clear links are made.</p>	<b>2</b>	<b>4–6</b>	<p>A range of relevant knowledge and understanding of how cardiovascular disease may impact on the wellbeing of Safia is shown, but may be lacking in sufficient detail, with a few errors</p> <p>Application of knowledge is mostly appropriate, showing some clear understanding of how cardiovascular disease may impact on the wellbeing of Safia. There may be a few errors.</p> <p>Analysis to demonstrate understanding of how cardiovascular disease may impact on the wellbeing of Safia is effective and mostly relevant with simplistic judgments made. Some clear links are made.</p>	<p><b>9</b></p> <p><b>AO1=3</b></p> <p><b>AO2=3</b></p> <p><b>AO3=3</b></p>
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1	1–3	<p>A range of relevant knowledge and understanding of how cardiovascular disease may impact on the wellbeing of Safia but is often fragmented.</p> <p>Application of knowledge is limited and may show a lack of understanding of how cardiovascular disease may impact on the wellbeing of Safia. There may be a number of errors.</p> <p>Analysis to demonstrate understanding of how cardiovascular disease may impact on the wellbeing of Safia lacks detail and may have limited effectiveness and relevance. Links may be made but are often inappropriate.</p>
0	0	No relevant material.

**Indicative content**

Answers may take a holistic approach or focus on the individual physical, cognitive, emotional and social aspects of Safia’s wellbeing.

- Physical
  - pain on exertion
  - reduced mobility and activity
  - death
- Cognitive
  - pain and fear could reduce concentration and affect memory
  - may increase the risk of dementia
  - may affect cognitive performance due to stroke
- Emotional
  - pain may cause a low mood
  - fear of further problems/death may affect self esteem
  - loss of activity may cause low mood
- Social
  - reduced activity may lead to less opportunities to socialise
  - reduction in ability to carry out daily activities may isolate
  - pain may make Safia feel less like socialising.

Accept other appropriate responses.

<p><b>4 (c)</b></p>	<p><b>Pulmonary circulation is one of the two circulatory pathways.</b></p> <p><b>Identify and describe the other circulatory pathway.</b></p> <p>Award <b>one</b> mark for:</p> <ul style="list-style-type: none"> <li>• systemic circulatory pathway (1)</li> </ul> <p>Award up to <b>two</b> marks for an accurate description:</p> <ul style="list-style-type: none"> <li>• systemic circulation carries oxygenated blood and nutrients to the cells (1) and returns de-oxygenated blood and waste products to the heart (1).</li> </ul>	<p><b>3</b></p> <p><b>AO1=1</b></p> <p><b>AO2=2</b></p>
<p><b>4(d)</b></p>	<p><b>Explain how the structure of arteries assists blood flow in the body.</b></p> <p>Award up to <b>two</b> AO1 marks for identification of artery structure and up to <b>two</b> AO3 marks for explanation of how artery structure assists blood flow in the body.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• have thick multi-layered walls (AO1 1) which enables them to carry blood under pressure (AO3 1)</li> <li>• are made of elastic fibres (AO1 1) which enables them to expand and recoil to regulate blood flow (AO3 1)</li> <li>• have muscle layers within them (AO1 1) to cope with the higher pressure of the blood in the arterial system (AO3 1)</li> <li>• arteries have large lumen (AO1 1) which allows them to distribute blood quicker (AO3 1).</li> </ul> <p>Accept other appropriate responses.</p>	<p><b>4</b></p> <p><b>AO1=2</b></p> <p><b>AO3=2</b></p>



### Assessment Objective Grid

Question	AO1	AO2	AO3	Total
1 (a)	1			1
1 (b)		3	3	6
1 (c)	3	3		6
1 (d)	1			1
1 (e)		3	3	6
2 (a)	2		2	4
2 (b)	2	5	5	12
2 (c)(i)	1			1
2 (c)(ii)	1		2	3
3 (a)	4			4
3 (b)	3	3		6
3 (c)			4	4
3 (d)	4		2	6
4 (a)	4			4
4 (b)	3	3	3	9
4 (c)	1	2		3
4 (d)	2		2	4
<b>Total</b>	<b>32</b>	<b>22</b>	<b>26</b>	<b>80</b>